

Commissioner for Patents
November 30, 2005
Page 4 of 15

Serial No. 10/607,291
Art Unit: 2636 Examiner: Jennifer A. Stone
Attorney Docket No.: AMG.4017.PAT

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A system ~~that sensesto sense~~ when ~~[[the]]a~~ turn signal for a vehicle is active and the vehicle is turning and indicate~~[[s]]~~ that the vehicle is turning by varying ~~[[the]]a~~ frequency and/or intensity with which the turn signal blinks, signaling to other motorists that the vehicle is turning, wherein the frequency and/or intensity with which the turn signal blinks is varied based upon an amount of time during which the vehicle is turning.
2. (Currently Amended) ~~[[A]]The~~ system as described in claim 1 further comprising ~~[[using]]~~a microcontroller, or microcontrollers, to take ~~[[the]]~~switching and sensory inputs and output ~~[[the]]a~~ pulsing sequence to a circuit of the microcontroller, or microcontrollers, that drives ~~[[the]]~~turn signal lamps when the vehicle is turning.
3. (Currently Amended) ~~[[A]]The~~ system as described in claim 1 further comprising ~~[[using]]~~pulse generators, or other circuits where ~~[[the]]a~~ duty cycle and an amplitude of the ~~outputturn~~ signal is dependent upon analog voltage levels, to output ~~[[the]]a~~ pulsing sequence to a circuit that drives the turn signal lamps when the vehicle is turning.
4. (Currently Amended) ~~[[A]]The~~ system as described in claim 1 further comprising ~~[[using]]~~a shaft position sensor, or other resistive, capacitive or inductive sensor, to determine ~~[[the]]an~~ amount to alter the frequency or intensity of the turn signal.
5. (Currently Amended) ~~[[A]]The~~ system as described in claim 1 ~~further comprising,~~ wherein the system is adapted to adjust~~[[ing]]~~ the turn signal frequency and/or intensity proportionally to ~~[[the]]a~~ position of ~~[[the]]a~~ shaft and/or the amount of time ~~the vehicle has been~~ turning.

Commissioner for Patents
November 30, 2005
Page 5 of 15

Serial No. 10/607,291
Art Unit: 2636 Examiner: Jennifer A. Stone
Attorney Docket No.: AMG.4017.PAT

6. (New) An apparatus to communicate a turn of a vehicle, the apparatus comprising:
a sensor to detect a position of a shaft of the vehicle;
a control circuit to generate an output signal, wherein the output signal varies based upon
the position of the shaft; and
a turn signal lamp to produce a turn signal based upon the output signal.
7. (New) The apparatus of claim 6, further comprising a switch to activate the control
circuit to indicate the turn upon activation of the switch.
8. (New) The apparatus of claim 6, wherein the control circuit is adapted to vary a wattage
to vary a frequency of the turn signal.
9. (New) The apparatus of claim 6, wherein the control circuit is adapted to vary a wattage
of the output signal to vary an intensity of the turn signal.
10. (New) The apparatus of claim 6, wherein the control circuit comprises a pulse generator
to vary a duty cycle of the output signal.
11. (New) An apparatus to communicate a turn of a vehicle, the apparatus comprising:
a sensor to detect an angle of a wheel of the vehicle;
a control circuit to generate an output signal, wherein the output signal varies based upon
the angle of the wheel; and
a turn signal lamp to produce a turn signal based upon the output signal.
12. (New) The apparatus of claim 11, further comprising a switch to indicate the turn upon
activation of the switch by a driver.
13. (New) The apparatus of claim 11, wherein the control circuit comprises a
microcontroller to drive the turn signal lamp.
14. (New) A vehicle comprising:

Commissioner for Patents
November 30, 2005
Page 6 of 15

Serial No. 10/607,291
Art Unit: 2636 Examiner: Jennifer A. Stone
Attorney Docket No.: AMG.4017.PAT

- a shaft;
 - a sensor to detect a position of a shaft;
 - a control circuit to generate an output signal, wherein the output signal varies based upon the position of the shaft; and
 - a turn signal lamp to produce a turn signal based upon the output signal.
15. (New) The vehicle of claim 14, wherein the control circuit comprises a pulse generator to vary a duty cycle of the output signal.
16. (New) A vehicle comprising:
- a wheel to turn the vehicle;
 - a sensor to indicate whether the vehicle is turning;
 - a control circuit to determine a sensor signal indicative of an amount of time that the vehicle has been turning and to generate an output signal, wherein the output signal varies based upon the amount of time; and
 - a turn signal lamp to produce a turn signal based upon the output signal while the vehicle is turning.
17. (New) The vehicle of claim 16, wherein the sensor comprises a shaft position sensor to determine an amount to alter the frequency or intensity of the turn signal based upon a rotational displacement of a shaft.
18. (New) A vehicle comprising:
- a wheel;
 - a sensor to detect an angle of the wheel;
 - a control circuit to generate an output signal, wherein the output signal varies based upon the angle of the wheel; and
 - a turn signal lamp to produce a turn signal based upon the output signal.
19. (New) The vehicle of claim 18, wherein the control circuit comprises a microcontroller generate a pulsing sequence to drive the turn signal lamp while the vehicle is turning.

Commissioner for Patents
November 30, 2005
Page 7 of 15

Serial No. 10/607,291
Art Unit: 2636 Examiner: Jennifer A. Stone
Attorney Docket No.: AMG.4017.PAT

20. (New) A method for communicating a turn of a vehicle, the method comprising:
generating an output signal with a frequency that varies based upon a position of a shaft;
and
outputting a turn signal in response to application of the output signal to a turn signal lamp, wherein the turn signal flashes in relation to the frequency.
21. (New) The method of claim 20, wherein generating the output signal comprises varying an intensity of the turn signal.
22. (New) The method of claim 20, wherein generating the output signal comprises varying a current to drive a thermal flasher for the turn signal.
23. (New) The method of claim 20, wherein generating the output signal comprises varying a duty cycle of the turn signal.
24. (New) The method of claim 20, wherein generating the output signal comprises varying the frequency based upon a rotational displacement between a previous position and the position of the shaft.
25. (New) A method for communicating a turn of a vehicle, the method comprising:
generating a output signal based upon an angle of a wheel of the vehicle to communicate the turn; and
applying the output signal to a turn signal lamp to vary a frequency with which the turn signal flashes based upon an angle of a wheel of the vehicle.
26. (New) The method of claim 25, wherein generating the output signal comprises varying a wattage applied to a blinker for the turn signal.
27. (New) The method of claim 25, wherein generating the output signal comprises varying a duty cycle and amplitude of the output signal.
28. (New) A method for communicating a turn of a vehicle, the method comprising:

Commissioner for Patents
November 30, 2005
Page 8 of 15

Serial No. 10/607,291
Art Unit: 2636 Examiner: Jennifer A. Stone
Attorney Docket No.: AMG.4017.PAT

generating an output signal to communicate the turn, wherein a frequency of the output signal varies based upon an amount of time the vehicle has been moving while the wheels are turned; and
applying the output signal to a turn signal lamp to vary a frequency with which the turn signal flashes.

29. (New) The method of claim 28, wherein generating the output signal comprises varying an intensity of the turn signal.
30. (New) The method of claim 28, wherein varying the intensity comprises varying a wattage applied to a blinker for the turn signal.
31. (New) The method of claim 28, wherein varying the intensity comprises varying a duty cycle and amplitude of the turn signal.
32. (New) A method for communicating a turn of a vehicle, the method comprising:
determining an amount of time the vehicle has been moving while the wheels are turned;
varying an output signal based upon the amount of time; and
applying the output signal to a turn signal lamp to vary an intensity of a turn signal for the vehicle.
33. (New) The method of claim 32, wherein varying the output signal comprises varying a frequency of the turn signal.
34. (New) The method of claim 32, wherein varying the output signal comprises varying a duty cycle of the output signal to vary the intensity of the turn signal.
35. (New) The method of claim 32, wherein applying the output signal comprises applying a varying wattage to a blinker for the turn signal.
36. (New) A method for communicating a turn of a vehicle, the method comprising:
sensing an angle of a wheel of the vehicle while the vehicle is moving;
generating an output signal based upon the angle; and

Commissioner for Patents
November 30, 2005
Page 9 of 15

Serial No. 10/607,291
Art Unit: 2636 Examiner: Jennifer A. Stone
Attorney Docket No.: AMG.4017.PAT

applying the output signal to a turn signal lamp to vary an intensity of a turn signal based upon the angle.

37. (New) The method of claim 36, wherein applying the output signal comprises varying a wattage applied to the turn signal lamp.
38. (New) The method of claim 36, wherein applying the output signal comprises varying a duty cycle and amplitude of the turn signal.
39. (New) A method for communicating a turn of a vehicle, the method comprising:
sensing a position of a shaft of the vehicle;
generating an output signal for the vehicle, wherein a wattage of the output signal varies based upon the position of the shaft; and
applying the output signal to a turn signal lamp to vary an intensity of a turn signal generated by the turn signal lamp based upon the position.
40. (New) The method of claim 39, wherein generating the output signal comprises varying a duty cycle and amplitude of the output signal.